

CHAPTER 13

Revisions to the Draft EIR

This chapter provides a compilation of revisions made to the DEIR by the lead agency, DWR, subsequent to the publication of the Draft EIR. The changes reflect minor modifications that do not constitute substantial new information but rather provide new assurance that impacts already identified in the Draft EIR would be mitigated adequately to support the conclusions in the Final EIR.

DWR has committed to developing a new Emergency Outlet Extension alternative and to conducting additional environmental analysis of the alternative that will require a subsequent CEQA compliance document. However, revisions to the Draft EIR do not include removal of the Emergency Outlet Extension analysis.

13.1 Changes Made in Response to Comments

Aesthetics

Mitigation Measure 3.1-3 requires DWR to provide large boulders to mitigate aesthetic impacts of constructing the haul road. DWR will coordinate with State Parks to develop a post construction landscape design. Mitigation Measure 3.1-3 on page 3.1-13 has been modified as follows:

Mitigation Measure 3.1-3: DWR shall ensure that the construction contractor retain some of the large naturally weathered boulders currently within the Bernasconi Pass to adorn the finished road to retain some of the original character of the trail. DWR shall coordinate a post-construction landscape plan for the Bernasconi Pass trail with State Parks.

Air Quality

The Draft EIR assesses impacts to air quality from construction of the proposed project in Section 3.2. Mitigation Measures 3.2-1a through 3.2-1i would reduce emissions from construction activities. In response to the comment, two additional mitigation measures are added to page 3.2-20 as follows:

Mitigation Measure 3.2-1j: DWR shall implement the following measures during construction:

- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site, and
- Require construction parking to be configured such that traffic interference is minimized.

Mitigation Measure 3.2-1k: On-site construction equipment shall meet EPA Tier 3 or higher emissions standards. A copy of each unit's certified tier specification, BACT documentation, and CARB or AQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

Biological Resources

DWR would implement a trapping and relocation effort only if approved by RCHCA. In response to the comment received, the following change was made to Mitigation Measure 3.3-4 on page 3.3-72:

Mitigation Measure 3.3-4: DWR shall implement the following measures:

- DWR shall have a qualified biologist with a Stephens' kangaroo rat handling permit, conduct pre-construction surveys for the Stephens' kangaroo rat within the grassland habitat to determine and map the location and extent of Stephens' kangaroo rat occurrence(s) within the project impact area. Confirmed Stephens' kangaroo rat precincts shall be avoided with the establishment of a non-disturbance buffer zone approved by the USFWS and CDFG. DWR shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on the Stephens' kangaroo rat.
- Where avoidance of confirmed Stephens' kangaroo rat precincts is infeasible and unavoidable, and if approved by the ~~RCA~~ RCHCA, DWR shall have qualified biologists permitted or otherwise approved by the USFWS conduct a pre-construction Stephens' kangaroo rat trapping and relocation effort to minimize take of the Stephens' kangaroo rat during construction.
- DWR shall install a silt fence or some other impermeable barrier to Stephens' kangaroo rat to exclude Stephens' kangaroo rat from entering the active work areas.

In response to a comment received Mitigation measure 3.3-8 on page 3.3-78 has been revised as follows:

Mitigation Measure 3.3-8: DWR in consultation with the Lake Perris SRA and CDFG shall plan for restoration of the fishery resource at Lake Perris to a sustainable population that supports recreation uses.

- DWR shall fund habitat placement and fish monitoring in Lake Perris for ~~three~~ five years, once the lake level is restored to Elevation 1588, under an agreement with CDFG.

- DWR shall continue to coordinate and work with CDFG on appropriate activities to restore fish levels after reservoir restoration for a ~~three~~ five-year period. These efforts may include additional habitat placement and/or fish stocking.

In response to a comment requested by CDFG, DWR has included the following mitigation measure to ensure that temporal impacts to waterfowl are fully mitigated.

Mitigation Measure 3.3-9c: DWR in consultation with CDFG shall fund the restoration of up to 24 acres of duck foraging habitat within the San Jacinto Wildlife Refuge area. DWR shall provide management assistance for a period not to exceed five years, after which time management costs will be the responsibility of CDFG.

Cultural Resources

In response to a comment received, the following change was made to Mitigation Measure 3.4-1 of page 3.4-15:

Mitigation Measure 3.4-1: In the event that prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and DWR shall consult with a qualified archaeologist to assess the significance of the find according to *CEQA Guidelines* Section 15064.5. If any find is determined to be significant, DWR and the archaeologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation. DWR (as applicable) shall make the final determination. All significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.

In considering any suggested mitigation proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, DWR shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out.

Indirect impacts to archaeological sites CA-RIV-1849, -463, -1697, -62, -604, -452, -489, -605, and -3024 may occur as a result of project-related activities, such as blasting, diesel exhaust, and dust. Therefore, DWR shall develop and implement a mitigation and monitoring plan for these sites prior to project implementation. Since several of these sites include rock art panels, the plan shall be developed in consultation with a qualified rock art conservator.

Hydrology, Water Quality, and Groundwater

In response to a comment received an additional item has been added to the mitigation measure 3.7-1b on page 3.7-10:

- Following completion of the project, the construction contractor will remove and properly dispose of all construction debris from the inundation zone of the lake. A qualified inspector (Registered Environmental Assessor with the State of California) will survey the construction zone within the inundation area following completion of construction activities. The survey will document any staining or areas where soil contamination may have occurred during construction, including along the length of the haul road within the inundation area. The contractor will remove and properly dispose of any contaminated soils identified in the construction area, which were not previously identified and removed. If necessary, as determined by the qualified inspector, soil samples will be collected from areas suspected to be contaminated to determine whether soil contamination has occurred. Appropriate cleanup of contaminated areas will be conducted.

Land Use and Planning

The Draft EIR includes County General Plan land use designations since Lake Perris SRA is located within Riverside County. Figure 3.8-1 identifies the County General Plan land use designations. However, in response to a comment received the following change has been made to page 3.8-1:

General Plan Land Use Designations

General Plan land use designations in the project vicinity are illustrated in **Figure 3.8-1**. The figure references the Riverside County General Plan and the City of Perris General Plan land use designations. Land use in and around Lake Perris SRA is designated and maintained by State Parks. largely governed by the Riverside County General Plan and The Lake Perris SRA is part of the County of Riverside Reche Canyon/Badlands Area Plan (County of Riverside, 2003). Lake Perris is surrounded by lands designated as Public Facilities (PF), Open Space-Conservation Habitat (OS-CH), and Open Space-Recreation (OS-R). The Land Use Element of the General Plan for the County of Riverside defines these land use categories as follows: ...

Noise

In response to the comment received the following change has been made to mitigation measure 3.9-1b on page 3.9-15:

Mitigation Measure 3.9-1b: In coordination with DPR at Lake Perris SRA, construction contractors shall implement the following:

- Signs shall be posted at the construction sites that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number in the event of problems.
- An on-site complaint and enforcement manager shall respond to and track complaints and questions related to noise.

Public Safety

The following changes to page 3.10-2 have been made in response to a comment received:

California Government Code Section 8589.5

This section of the California Code of Regulations ~~requires~~ states that cities ~~have~~ may ~~adopt~~ emergency procedures in place for the evacuation and control of populated areas within the limits of inundation below dams. The responsibility for disaster planning and emergency response belongs to the local jurisdictions per Government Code 8589.5. The appropriate public safety agencies of any city, county, or city and county, the territory of which includes any of those areas, may adopt emergency procedures for the evacuation and control of populated areas below those dams. The Office of Emergency Services shall review the procedures to determine whether adequate public safety measures exist for the evacuation and control of populated areas below the dams, and shall make recommendations with regard to the adequacy of those procedures to the concerned public safety agency. In conducting the review, the Office of Emergency Services shall consult with appropriate state and local agencies.

Traffic and Circulation

DWR would ensure that access to emergency responders be maintained at all times during construction. In response to a comment received the following mitigation measure has been added to page 3.13-7:

Mitigation Measure 3.13-2d: DWR shall require the construction contractor contact emergency services departments including the police and fire department when lane closures are planned. Access to the Lake Perris SRA for emergency service providers will be maintained at all times. DWR and the contractor shall coordinate with local emergency services providers to ensure that roadway obstructions are minimized.

13.2 Changes Made by the Lead Agency

Executive Summary

The following changes have been made on page S-4 based on revisions made to the Alternatives Analysis:

CEQA requires that an EIR evaluate a reasonable range of alternatives to the proposed project that could attain the basic objectives of the project, but would avoid or reduce significant environmental effects of the project. This EIR evaluates dam remediation alternatives and an outlet tower retrofit alternative, ~~and emergency outlet extension lining alternatives.~~ These alternatives are discussed further in Chapter 6, Analysis of Alternatives. The EIR concludes that the Alternative 3 (Recreation Alternative) would be considered proposed project is the environmentally preferred alternative for the dam remediation although they would not meet the project objectives of returning the lake to its pre-drawdown functions as a water storage facility. However, tThe alternative to install the emergency outlet extension underground for its entire length (Alternative 6) was identified as the environmentally superior alternative for the emergency outlet extension and the proposed project is considered the environmentally superior alternative for the outlet tower.

The following revisions have been made to page S-4 to correct the stated number of significant and unavoidable impacts as described in the Draft EIR:

The EIR finds ~~only two~~ seven significant and unavoidable impacts of the proposed project: 1) air emissions associated with construction, 2) biological resources due to loss of habitat, 3) direct impacts to least Bell's vireo, 4) noise and vibration during construction, 5) disruption of recreational uses during construction, 6) impacts to sport fishery and waterfowl hunting opportunities, and 7) cumulative air emissions during construction ~~1) construction activities will likely exceed daily thresholds of significance for criteria air pollutants, and 2) recreational activities at Lake Perris SRA will be significantly affected during construction.~~ All other potentially significant impacts identified would be reduced to less than significant levels with proposed mitigation measures.

Project Description

The following changes have been made to the project objectives on page 2-7:

The objectives of the proposed project are to:

- Upgrade SWP infrastructure to meet current seismic standards;
- Maintain SWP delivery commitments;
- Maintain maximum access to beneficial uses at Lake Perris SRA during the period of drawdown while ensuring public safety during construction;

- Maintain maximum amount of pre-drawdown riparian habitat at Lake Perris SRA during the period of drawdown;
- Minimize risks associated with seismic hazards;
- Provide infrastructure for the implementation of a safe emergency drawdown;
- Enhance and restore public safety;
- Maximize the beneficial use of Lake Perris SRA ~~by restoring reservoir to pre-drawdown water levels;~~ and
- Minimize environmental impacts.

Alternatives

The Alternatives Chapter has been revised without identifying strike-out/underline for ease of reading. The Revised Alternatives Chapter has been included in its entirety below:

REVISED CHAPTER 6

Analysis of Alternatives

6.1 Introduction and Approach

6.1.1 Introduction

CEQA Guidelines Section 15126.6 requires that an EIR describe and assess a reasonable range of alternatives to a project that would feasibly meet most of the basic project objectives but would avoid or substantially lessen significant project impacts. Thus, the range of alternatives is limited to those that would both avoid or substantially lessen the project impacts and also meet most of the basic project objectives. If an alternative does not reduce or avoid the impacts of the project, then it does not meet the CEQA purpose for the alternatives analysis. If an alternative does not meet most of the project objectives to some degree, then it is not a viable alternative to the project. In addition, an alternative must be feasible – capable of being implemented from a technical, economic, schedule and institutional perspective. CEQA also requires that an EIR evaluate the “No Project” alternative along with its impacts. *CEQA Guidelines* Section 15126.6 reads in part as follows:

. . . . An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternative to be discussed other than the rule of reason.

The proposed project includes three components to seismically upgrade the dam and its facilities and improve public safety: 1) dam remediation to meet current seismic safety standards, 2) replacement of the outlet tower, and 3) construction of an emergency outlet extension for the emergency outlet facility.

6.1.2 Approach to Alternatives Analysis

In 2005, DWR completed a foundation study of the Perris Dam that indicated that seismically induced ground shaking could result in slope failure due to liquefaction potential of soils beneath the dam, as a result of the characteristic earthquake event (an earthquake with Moment Magnitude of 7.5) on the San Jacinto Fault. The report identified specific actions needed to ensure the continued safe operation of the dam, including the lowered lake elevation. Based on this finding, a Perris Dam Reconnaissance Study was conducted (Washington Group, 2006). This document has been included in the Final EIR Appendix (Appendix A) to provide easy access to the alternatives analysis that was previously conducted. The purpose of the Reconnaissance Study

was to evaluate alternatives to remediating the foundation of the dam and making the other improvements that would be needed for Perris Dam to safely impound the reservoir at its designed water surface elevation. Alternatives evaluated in the Reconnaissance Study included permanently lowering the lake level, maintaining the existing level, and raising the normal maximum operating level of the reservoir.

As noted above, the proposed project involves three distinct components of dam operation -- the dam itself, the outlet tower, and the proposed emergency outlet extension. Because each project component provides independent utility and could conceivably be implemented independently of the other two, this chapter considers the project alternative(s) of each component separately. The no-project alternative components are considered together.

6.1.3 Project Objectives

The objectives of the proposed project are to:

- Upgrade SWP infrastructure to meet current seismic standards;
- Maintain SWP delivery commitments;
- Maintain maximum access to beneficial uses at Lake Perris SRA during the period of drawdown while ensuring public safety during construction;
- Maintain maximum amount of pre-drawdown riparian habitat at Lake Perris SRA during the period of drawdown;
- Minimize risks associated with seismic hazards;
- Provide infrastructure for the implementation of a safe emergency drawdown;
- Enhance and restore public safety;
- Maximize the beneficial use of Lake Perris SRA; and
- Minimize environmental impacts.

6.2 Project Alternatives

6.2.1 Dam Remediation Alternatives

Alternative 1: Increased Dam Capacity Alternatives

The Reconnaissance Study includes four scenarios for increasing the reservoir operating level above the existing design elevation of 1,588 feet. The Increased Dam Capacity Alternative evaluated encompasses four scenarios that would increase capacity from between capacities of 257,000 acre feet to 1 million acre feet. All four scenarios would require construction of a second dam, called the Northeast Dam on the northeast side of the lake, and all four scenarios would require a saddle dam at Bernasconi Pass. Construction of the Northeast Dam would eliminate the need for up to three additional saddle dams, in addition to the saddle dam at Bernasconi Pass. Under this alternative, the existing dam would be raised, creating a larger reservoir. Dam

remediation would be required, involving the same proposed components as the proposed project, including deep soil cement mixing, soil re-compaction, and the stability berm. Installation of the Northeast Dam would be required to protect the habitat for Stephens' kangaroo rat, least Bell's vireo, and California coastal gnatcatcher in the northeast end of the reservoir. Under this alternative, and under all scenarios, a saddle dam would be constructed at the south end of the reservoir. Additionally, it is assumed that the outlet tower and emergency outlet extension would be constructed at a scale that is appropriate to the dam capacity.

Base operating levels of the lake would be raised from between 1,640 feet to approximately 1,814 feet, and the Northeast Dam would be constructed from a base elevation of 1,600 feet. As the capacity of the lake increases, the Northeast Dam would lengthen westward and the inundation area or surface area of the lake would increase in a northwestern direction.

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics (see Section 3.1 of the Draft EIR), with mitigation incorporated. Under Alternative 1, the new Northeast Dam would bridge the Bernasconi Pass, which consists of a visible gap and visual reference point between the north Bernasconi Mountains and the south Bernasconi Mountains. (The Pass is closed at its western end because of the lake.) The Northeast Dam would reduce views through a portion of the gap and would be visible from the public recreation areas on the west side of the lake. A saddle dam at the south end of the lake would be publicly visible from the Ramona Expressway, and, in addition to the earthen berm, could partially block views of the mountains to the north or views from recreational areas to the south. As compared to the proposed project, potential impacts to long-range views from publicly accessible locations would be substantially greater than for the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impacts to air quality with mitigation incorporated (see Section 3.2 of the Draft EIR). Under Alternative 1, two new dams would be constructed, in addition to the work included as part of the proposed work. These substantial additional structures would result in significant construction emissions. Not only would the construction schedule be extended, but additional equipment would result in significant and unavoidable construction emissions. As compared to the proposed project, this alternative would result in an increase in the construction emissions above those identified for the proposed project.

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (see Section 3.3 of the Draft EIR). Under Alternative 1, the Northeast Dam would be constructed specifically to protect habitats, such as habitat for Stephen's kangaroo rat and other habitats located in the northeast area of the lake from permanent inundation. However, during construction, habitats near the water's edge and within the footprint

of the Northeast Dam and the southern saddle dam would be affected temporarily and restoration actions and additional habitat compensation measures may be required depending on the ultimate footprint of the two new dams. In addition, under this alternative, all of the mitigation measures required for the proposed project would be required and this alternative would be likely to result in the same significant and unavoidable impacts as the proposed project. However, impacts to biological resources from construction of the proposed project would cover a greater area and avoidance of sensitive species would be more difficult. As compared to the proposed project, Alternative 1 could result in greater impacts to biological resources over the short-term.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Perris Lake is a reservoir, created in the latter 1960s and early 1970s as the terminus to the East Branch Extension of the California Aqueduct. Under Alternative 1, one of the new dams would be constructed in the area set aside as a borrow area for the proposed project. An isolated cultural resource has been discovered adjacent to (west) the borrow area, next to a boulder outcrop. In addition, a site has been located north of the Bernasconi Pass and other artifacts have been located adjacent to (west) the proposed haul road. Because of the proximity of these resources to the locations of the two dams, potential impacts to known and unknown cultural resources could be affected by construction and operation of the dams and the need to use areas near or within the footprint of known cultural resources for the construction of the proposed dams. As compared with the proposed project, Alternative 1 could result in greater impacts to cultural resources.

Geology, Soils, Faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources with mitigation incorporated (see Section 3.5 of the Draft EIR). Under Alternative 1, impacts related to geology and soils would include the construction of two dams, the Northeast Dam and a saddle dam. Construction of these facilities would change the topography of the area, particularly along the southern edge of the lake and at the Bernasconi Pass. However, as with the proposed project, all dam construction would be conducted under the oversight of the Division of Safety of Dams (DSOD). As compared to the proposed project, Alternative 1 would result in impacts related to geology and soils and to the unique geologic features within the Bernasconi Hills greater (due to the higher water levels and the need for the Northeast Dam and a saddle dam to the south) than the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less significant impacts related to hazards and hazardous materials with mitigation incorporated (see Section 3.6 of the Draft EIR). Under Alternative 1, in addition to the potential hazardous materials identified for the proposed project, the use of additional hazardous materials could be required for the construction of two dams. However, the impacts would overall be nearly the same as for the proposed project, including the requirement for conformance with DWR requirements for preparation of a Blasting Plan and for potential

encounters with asbestos-containing materials. As compared to the proposed project, potential impacts from hazardous materials would be similar under Alternative 1.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater with mitigation incorporated (see Section 3.7 of the Draft EIR). Under Alternative 1, increasing the water level elevation could increase groundwater levels down-gradient, which could result in areas of shallow groundwater. This could adversely affect subsurface structures and could result in downstream ponding. As compared to the proposed project, Alternative 1 would result in greater impacts to groundwater, hydrology and water quality.

Land Use and Planning

The proposed project would result in less than significant impacts related to land use and planning with mitigation incorporated for the underground alternative and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Increasing the size of the lake would inundate lands currently used by the State Parks for recreation; resulting in the elimination of many existing facilities and the possible need to replace these facilities in the future. However, a larger lake would accommodate a greater number of water-sport visitors. As compared to the proposed project, Alternative 1 would conform to existing plans, but would result in a reduction in existing facilities; therefore greater impacts than the proposed project.

**TABLE 6-1
ABILITY OF PROJECT ALTERNATIVES TO MEET PROJECT OBJECTIVES**

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Alternative 4</u>	<u>Alternative 5</u>	<u>Alternative 6</u>	<u>Alternative 7</u>	<u>Alternative 8</u>
Objectives	Increased Dam Capacity	Reduced Dam Capacity	Recreation Alternative	Decommission Perris Dam	Retrofit Current Outlet Tower	Emergency Covered Outlet Extension	No Project	Alternative Borrow Location
Upgrades SWP infrastructure to meet current seismic standards?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Maintain SWP delivery commitments?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Maintain maximum access to beneficial uses at Lake Perris SRA during the period of drawdown while ensuring public safety during construction?	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Maintain maximum amount of pre-drawdown riparian habitat at Lake Perris SRA during the period of drawdown?	No	No	No	No	Yes	No	No	Yes
Minimize risks associated with seismic hazards?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Provide infrastructure for the implementation of a safe emergency drawdown?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Enhance and restore public safety?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Maximize the beneficial use of Lake Perris SRA?	Yes	No	No	No	Yes	Yes	No	Yes
Minimize environmental impacts	No	No	Yes	No	Yes	Yes	Yes	Yes

SOURCE: ESA, 2007

Noise

The proposed project would result in significant and unavoidable impacts to ambient noise levels (see Section 3.9 of the Draft EIR). Under Alternative 1, construction noise would be increased due to the wider construction zone and longer construction period due to additional project components. More noise would be generated related to construction equipment, such as blasting, vibration, and other construction activities associated with the construction of two dam facilities. As compared to the proposed project, noise would continue to have significant and unavoidable impacts related to construction. However, these noise impacts would be more intense than for the proposed project.

Public Safety

The proposed project would result in less than significant impacts to public safety with the incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Under Alternative 1, construction activities would intensify within the park and near Ramona Expressway. This activity would pose hazards to park visitors and potential hazards for drivers along Ramona Expressway for a longer period of time in order to gain access to a wider construction area. As compared to the proposed project, impacts to public safety under Alternative 1 would be similar to the proposed project.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services (see Section 3.11 of the Draft EIR). As with the proposed project, under Alternative 1, the project would require short-term increases in demand for police and fire services, demand for electricity, and potential encounters with buried utilities. Because these impacts would not be long-range, these impacts would not be considered significant. As compared to the proposed project, impacts to public services and utilities under Alternative 1 would be similar to the proposed project, but slightly greater because the size of the construction area is wider and the duration of construction longer.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with mitigation incorporated (see Section 3.12 of the Draft EIR). Under Alternative 1, construction activities would also temporarily disrupt recreational activities at the Lake Perris SRA and the lake drawdown would also adversely affect the Lake Perris SRA sport fishery and waterfowl hunting opportunities. Although water recreation would be enhanced under this alternative since the surface area of the lake would be increased. Recreational facilities would require modification to accommodate the new shoreline of the larger lake. However, as compared to the proposed project, impacts under Alternative 1 resulting from construction would be similar to the proposed project and would remain significant and unavoidable.

Traffic and Circulation

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Under Alternative 1, impacts to

traffic from construction would be greater under this alternative since the construction area is wider and the duration longer. These impacts include the impact of construction activities on traffic along Ramona Expressway, Evans Road and Lake Perris Drive, and roadways within the Lake Perris SRA, and the impact of increases in construction-related vehicles. However, the same mitigation measures applicable to the proposed project would apply to Alternative 1 and would reduce impacts to a less than significant impact. As compared to the proposed project, however, impacts to traffic and circulation under Alternative 1 would be more intense than those described for the proposed project.

Impact Summary

Alternative 1 or the Increased Dam Capacity Alternative would result in increased impacts for many resources since the project would include additional dams requiring more construction over a longer period. This alternative would benefit water-sport activities due to the increased surface area of the lake and would fulfill most of the project objectives, including maintaining SWP delivery commitments, minimizing risks associated with seismic hazards, enhancing and restoring public safety, and maximizing beneficial uses of Lake Perris SRA. It is unclear whether Alternative 1 would be able to meet other goals related to maximizing the amount of pre-drawdown riparian habitat at Lake Perris SRA during drawdown, or whether it would maintain maximum amounts of pre-drawdown riparian habitat during drawdown. Alternative 1 would not, however, minimize environmental impacts, which would be more intense during construction than the proposed project. Table 6-1 summarizes the ability of this alternative to fulfill the goals of the project; **Table 6-2** summarizes the impacts associated with this alternative.

Alternative 2: Reduced Dam Capacity Alternative

The Reconnaissance Study includes two scenarios for reducing the reservoir operating level below the existing design elevation of 1,588 feet. The Reduced Dam Capacity Alternative evaluated here permanently reduces the reservoir operating level to Elevation 1,563, which is the current operating capacity because of the need for repairs to the dam. Under this alternative, the reservoir would be permanently smaller. This alternative assumes that dam remediation would still be implemented, albeit at a reduced scale compared to the proposed project. This alternative would involve the same dam remediation components as the proposed project, such as deep soil cement mixing and soil re-compaction, albeit at a reduced scale. Additionally, it is assumed the outlet tower and emergency outlet extension alternative would be constructed at a scale that is comparable to the reduced dam capacity assumed for this alternative.

**TABLE 6-2
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT**

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Alternative 4</u>	<u>Alternative 5</u>	<u>Alternative 6</u>	<u>Alternative 7</u>	<u>Alternative 8</u>
Potential Impacts	Increased Dam Capacity	Reduced Dam Capacity	Recreation Alternative	Dam Decommissioning	Retrofit Current Outlet Tower	Emergency Covered Outlet Extension	No Project Alternative	Alternative Borrow Location
Aesthetics	Greater	Similar	Lesser	Greater	Lesser	Lesser	Lesser	Lesser
Air Quality	Greater	Similar	Lesser	Greater	Lesser	Similar	Lesser	Greater
Biology	Greater	Similar	Lesser	Greater	Lesser	Similar	Lesser	Lesser
Cultural Resources	Greater	Similar	Lesser	Lesser	Similar	Similar	Lesser	Lesser
Geology, Soils, Faulting, and Seismicity	Greater	Similar	Similar	Lesser	Similar	Similar	Lesser	Lesser
Hazardous Materials	Similar	Similar	Lesser	Lesser	Similar	Similar	Lesser	Similar
Hydrology and Water Quality	Greater	Similar	Similar	Greater	Greater	Similar	Greater	Lesser
Land Use	Greater	Similar	Similar	Similar	Lesser	Lesser	Lesser	Lesser
Noise	Greater	Similar	Lesser	Similar	Lesser	Similar	Lesser	Lesser
Public Safety	Similar	Similar	Lesser	Similar	Similar	Lesser	Greater	Similar
Public Services and Utilities	Greater	Similar	Similar	Greater	Similar	Similar	Lesser	Similar
Recreation	Similar	Greater	Greater	Greater	Similar	Similar	Greater	Similar
Traffic and Circulation	Greater	Similar	Lesser	Lesser	Similar	Similar	Lesser	Greater

SOURCE: ESA, 2007

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics with mitigation incorporated (see Section 3.1 of the Draft EIR). Under Alternative 2, the surface area of the lake would be smaller, exposing portions of the lake that were underwater along its northern, eastern and southern perimeter. Potential impacts to long-range views from the stability berm would be similar to the proposed project. However, this alternative would temporarily result in adverse visual impacts due to the exposure of the unvegetated shoreline that previously had been underwater. These areas would eventually revegetate naturally. As compared to the proposed project, Alternative 2 would result in impacts similar to those of the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impacts to air quality with mitigation incorporated (see Section 3.2 of the Draft EIR). Under Alternative 2, repairs and remediation work to the dam facilities would be similar to the those required under the proposed project. Construction efforts would be nearly the same for both the proposed project and Alternative 2. As compared to the proposed project, Alternative 2 would result in the same significant and unavoidable impacts.

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (see Section 3.3 of the Draft EIR). Under Alternative 2, impacts to biological resources from construction would be similar to the proposed project. However, under Alternative 2, the existing riparian area north of the lake would be eliminated due to the lower lake level and would adversely affect least Bell's vireo habitat. The habitat would be replaced by re-emerging habitat resulting in a similar impact to the proposed project. However, the fisheries would be permanently affected by the lower lake level and reduced shallow water habitat.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Cultural resources have been identified adjacent to areas that would be active during construction of the proposed area, including the borrow area. However, with a reduced lake footprint, potential impacts to known cultural resources would be reduced and potential impacts to unknown cultural resources would be similar to the proposed project. As compared to the proposed project, Alternative 2 could result in impacts similar to the proposed project.

Geology, Soils, Faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources with mitigation incorporated (see Section 3.5 of the Draft EIR). Under Alternative 2, impacts related to geology and soils would be similar and in the same location as the proposed project. These impacts include potential impacts related to earthwork activities along the existing

embankment and the former rock quarry area, exposure of soils to erosion and topsoil, and the potential for subsidence from stockpiled excavated materials. As compared to the proposed project, Alternative 2 would result in potential impacts related to geology, soils, faulting and seismicity similar to the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts related to hazards and hazardous materials with mitigation incorporated (see Section 3.6 of the Draft EIR). Under Alternative 2, because the remediation at the dam would require the basic construction work that would be required for the proposed project, the same measures would be required, including safety plans for workers and conformance with DWR requirements for preparation of a Blasting Plan. As compared to the proposed project, potential impacts from hazards and hazardous materials would be similar to the proposed project.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater with mitigation incorporated (see Section 3.7 of the Draft EIR). Under Alternative 2, reducing the water level elevation could decrease groundwater levels down-gradient. However, even with a reduced water level, seepage would likely continue. As a result, Alternative 2 would result in similar impacts to water quality, groundwater and surface hydrology.

Land Use and Planning

The proposed project would result in less than significant impacts related to land use and planning with mitigation incorporated for the underground alternative and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Under Alternative 2, land would be exposed north, east and south of the surface area of the lake. Marina facilities already moved toward the new water's edge would remain in place. Alternative 2 would not conflict with existing land use plans and policies, nor, because of mitigation measures provided for impacts to biological resources, would it conflict with the MSHCP. As compared to the proposed project, Alternative 2 would result in impacts to land use similar to the proposed project.

Noise

The proposed project would result in significant and unavoidable impact to ambient noise levels (see Section 3.9 of the Draft EIR). Under Alternative 2, because the projects would require the same basic construction, construction noise would be similar to the proposed project. As compared to the proposed project, Alternative 2 would result in similar significant and unavoidable impacts to noise levels as the proposed project.

Public Safety

The proposed project would result in less than significant impacts to public safety with the incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Under Alternative 2,

although there would be more space between the lake footprint and the haul route, as well as the borrow area. However, because Alternative 2 would require the same basic construction as the proposed project, potential construction hazards within the park would be similar to the proposed project. As compared to the proposed project, Alternative 2 would result in impacts similar to those resulting from the proposed project.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services and utilities (see Section 3.11 of the Draft EIR). Under Alternative 2, demand for public services, such as police and fire protection services, and utilities, such as electricity would be similar as to the demand generated by the proposed project. No additional facilities would be required that would result in significant impacts to the environment. In addition under Alternative 2, the potential to accidentally encounter buried underground utilities would be similar to the potential to encounter underground utilities under the proposed project. As compared to the proposed project, Alternative 2 would result in demand for public services and utilities that would be similar to the proposed project.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with the incorporation of mitigation measures (see Section 3.12 of the Draft EIR). Under Alternative 2, similar impacts would result and would involve disruption of existing recreational activities and the Fairgrounds and potential impacts to the Lake Perris SRA sport fishery and waterfowl hunting opportunities. In addition, under Alternative 2, water-sport activities would be constrained since the surface area of the lake would be decreased. Recreational facilities would require modifications to accommodate the new shoreline of the smaller lake. As compared to the proposed project, Alternative 2 would result in impacts similar, but slightly more intense than impacts identified for the proposed project.

Traffic and Circulation

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Under Alternative 2, short-term increases in vehicle trips by construction workers and construction vehicles would occur, in addition to potential impacts to local roadways and potential closures within the Lake Perris SRA. As compared to the proposed project, Alternative 2 would result in impacts to traffic and circulation from construction that would be similar to the proposed project.

Impact Summary

Alternative 2 or the Reduced Dam Capacity Alternative would result in similar impacts for many resources since Alternative 2 and the proposed project would construct similar facilities. The impacts to air quality would not be avoided. Impacts to biological resources would be greater than the proposed project since the riparian areas would be adversely affected. Table 6-2 summarizes the impacts associated with this alternative. Alternative 2 would fulfill most of the objectives of

the project with the exception of goals related to pre-drawdown objectives, particularly the goal to maintain the maximum amount of pre-drawdown riparian habitat at Lake Perris SRA and restoring the lake to its pre-drawdown condition. Table 6-1 summarizes the ability of this alternative to fulfill the goals of the project; Table 6-2 summarizes the impacts associated with this alternative.

Alternative 3: Recreation Alternative

Alternative 3 permanently reduces the reservoir operating level to Elevation 1,542 feet. Under this alternative, the reservoir would be permanently smaller and used for recreation purposes only, not for water storage. This alternative assumes that dam remediation would not be required. The outlet tower would be reduced in height to accommodate the lowered lake elevation and the emergency outlet extension alternative would be constructed at a scale that is comparable to the reduced dam capacity assumed for this alternative.

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics with mitigation incorporated (see Section 3.1 of the Draft EIR). Under Alternative 3, there would be no potential impacts to long-range views from the stability berm because one would not be constructed. This alternative would result in temporary adverse visual impacts due to the exposure of the unvegetated shoreline that previously had been underwater until new vegetation emerged. As compared to the proposed project, Alternative 3 would result in fewer impacts to visual quality than the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impacts to air quality with mitigation incorporated (see Section 3.2 of the Draft EIR). Under Alternative 3, potential impacts to air quality would be substantially less than the proposed project because no dam remediation would be required. As compared to the proposed project, Alternative 3 would result in substantially reduced impacts to air quality.

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (see Section 3.3 of the Draft EIR). Under Alternative 3, impacts to biological resources from construction would be similar to the proposed project. However, under Alternative 3, the riparian corridor on the original lake shore would be entirely eliminated. A new riparian corridor would emerge at the new lake shore to support sensitive species. The lake would support water fowl and fisheries similar to existing conditions after the drawdown, but with the changing water elevation, the remaining shallow water habitat would likely diminish. The fisheries would be permanently affected by the lower lake level and reduced shallow water habitat. The habitat below the dam would likely remain unaffected which would be a significantly lesser impact to riparian habitat than the proposed project. However, the lowered water level may

reduce seepage under the dam that supports the riparian habitat. If seepage was substantially reduced this Alternative could diminish or eliminate the habitat. This notwithstanding, due to the reduced construction impacts on downstream riparian habitat. Alternative 3 would result in fewer potential impacts to biological resources compared to the proposed project.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Under Alternative 3, potential impacts to unknown cultural resources would be less than under the proposed project because with no berm construction, no haul road over Bernasconi Hills would be required to transport materials. Cultural resources identified near the Bernasconi Pass would remain unaffected. Under Alternative 3, there is some possibility that the exposed lakebed could yield unknown cultural resources. However, as compared to the proposed project, under Alternative 3, potential impacts to cultural resources would be less than under the proposed project.

Geology, Soils, Faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources, soils, faulting and seismicity with mitigation incorporated (see Section 3.5 of the Draft EIR). Under Alternative 3, the berm would remain unremediated and subject to ground shaking. However, due to the lower lake level flooding would not result from severe ground shaking or liquefaction. As compared to the proposed project, potential impacts related to geology, soils, faulting and seismicity would be similar to those resulting from the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts related to hazards and hazardous materials with mitigation incorporated (see Section 3.6 of the Draft EIR). Under Alternative 3, no new berm would be constructed and no old piping would be removed. As compared to the proposed project, potential impacts related to hazardous materials would be substantially less than under the proposed project because no new berm would be constructed. Although asbestos issues could remain, if structure along the former perimeter of the lake are removed to move them closer to the lake's edge. However, with the implementation of mitigation measures required for the proposed project, impacts under Alternative 3 would also be less than significant. As compared to the proposed project, potential impacts related to hazards and hazardous materials would be similar, although slightly less, to those resulting from the proposed project.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater with mitigation incorporated (see Section 3.7 of the Draft EIR). Under Alternative 3, because the site would no longer be used to store water, but would be used for recreational uses only, efforts would be focused on maintaining the water elevation level. However, under Alternative 3, reducing the water level elevation could decrease groundwater levels down-gradient. However, even with a reduced water level, seepage would likely continue,

albeit to a lesser degree due to the reduced surface elevation. As a result, Alternative 3 would result in similar impacts to water quality, groundwater and surface hydrology.

Land Use and Planning

The proposed project would result in less than significant impacts related to land use and planning with mitigation incorporated for the underground alternative and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Alternative 3 would result in a reduced lake surface, but would not conflict with open space land use designations. The land would continue to be managed by the State Parks. Impacts to land use would be similar to the proposed project.

Noise

The proposed project would result in significant and unavoidable impacts to ambient noise levels (see Section 3.9 of the Draft EIR). Under Alternative 3, no dam remediation would be necessary. As a result, no noise related to dam construction would be generated by Alternative 3. As compared to the proposed project, under Alternative 3 impacts related to noise would be substantially less.

Public Safety

The proposed project would result in less than significant impacts to public safety with the incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Although Alternative 3 could result in some construction related to the recreational areas, Alternative 3 would result in little, if any, need for fencing along the shoreline or the exposure of visitors to the Lake Perris SRA to substantial construction hazards. Under Alternative 3, construction hazards within the park would therefore be less than the proposed project since no dam construction would occur. As compared to the proposed project, under Alternative 3, impacts related to public safety would be less than for the proposed project.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services (see Section 3.11 of the Draft EIR). Under Alternative 3, demand for fire and police protection services would be similar to existing demand, and, unless park operations change (longer hours, etc.), demand for electricity and other utilities would remain unchanged. Under Alternative 3, impacts to public services and utilities would be similar to the proposed project.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with mitigation incorporated (see Section 3.12 of the Draft EIR). Under Alternative 3, recreational uses would predominate; however, water-sport activities would be more constrained under this alternative since the surface area of the lake would be decreased. Recreational facilities would likely require modifications to accommodate the new shoreline of the smaller lake. Impacts to the hunting and fishing opportunities would be similar to the proposed project. However, under Alternative 3, construction impacts related to remediation of the dam would be eliminated. Due to

the permanently lower lake level, overall impacts to recreational facilities would be greater than for the proposed project.

Traffic

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Under Alternative 3, although some construction related to recreational facilities would be required, major roadways such as Ramona Expressway, would be unaffected. No haul road would be required, and any required closures on other roadways within the SRA would be brief. Assuming that demand for park services remain the same, as compared to the proposed project, impacts to traffic from construction would be less than for the proposed project.

Impact Summary

Alternative 3 or the Recreation Alternative would not require the construction of the new dam and would therefore have different impacts than the proposed project. The impacts to air quality would be decreased due to less construction. However, impacts related to groundwater could be greater than the proposed project. Alternative 3 would meet only half of the project objectives and would not meet objectives related to, for example, maintaining SWP delivery commitments, or providing infrastructure for the implementation of a safe emergency drawdown. Table 6-1 summarizes the ability of this alternative to fulfill the goals of the project; Table 6-2 summarizes the impacts associated with this alternative.

Alternative 4: Dam Decommissioning Alternative

Alternative 4 is based on the Reconnaissance Study, which includes one scenario for draining the reservoir and decommissioning the dam. The decommissioning of Perris Dam would also require removing the outlet tower, and retrofitting the dam to prevent impounding storm water runoff. It is assumed that much of the earthen dam would remain in place, but that the dam would be notched to allow for surface drainage through the valley to occur unimpeded. MWD would continue to serve customers via the Santa Ana Pipeline, but would not be able to use the reservoir for emergency storage.

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics (see Section 3.1 of the Draft EIR). Under Alternative 4, potential impacts to long-range views from the stability berm would be eliminated. However, draining the lake would significantly change the character of the area. Assuming that eventually the dam could be removed, views currently blocked along Ramona Expressway, adjacent to the berm, would be opened up. Visitors to the SRA would have views south of the lake bed. However, for many years, the former lake would no longer be a visual resource. Unvegetated at first, and then with unstable and later hardened lake bed soils, the exposed lake bed would detract from views along the former shore line. As

compared to the proposed project, Alternative 4 would result in greater impacts to visual quality and the local character than the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impact to air quality (see Section 3.2 of the Draft EIR). With no construction, under Alternative 4, the significant and unavoidable construction emissions identified for the proposed project would be largely avoided. However, the dry lake bed could generate dust until vegetation is reestablished, which could take several years in the arid region. In addition, notching the dam would result in the need for haul trucks and other heavy construction equipment. As compared to the proposed project, Alternative 4 would result in different impacts to air quality than the proposed project, but when considered over the next several years, these impacts could be greater than the proposed project.

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (see Section 3.3 of the Draft EIR). Under Alternative 4, impacts to biological resources from construction of the proposed project would be avoided, including the removal of riparian habitat at the toe of the dam. However, draining the lake would remove the water source for the entire riparian habitat in the area, which would result in the elimination of the surrounding riparian habitat. This could significantly affect the federally listed least Bell's vireo. The desert habitat would eventually re-vegetate the lake bed, but the riparian habitat would be eliminated permanently, resulting in significant impacts to biological resources. The fisheries would be permanently eliminated. The value of the lake to fisheries and water fowl would be entirely eliminated, resulting in another significant impact of this alternative. As compared to the proposed project, Alternative 4 would result in greater long-term impacts to biological resources than the proposed project.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Under Alternative 4, potential impacts to unknown cultural resources would be avoided with the elimination of earth moving activities. As compared to the proposed project, under Alternative 4, impacts to potential cultural resources would be lesser than those of the proposed project.

Geology, Soils, faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources with mitigation incorporated (see Section 3.5 of the Draft EIR). Under Alternative 4, decommissioning the dam and draining the lake would eliminate the potential hazard of dam failure from seismic events, and impacts to the unique geologic features within the Bernasconi Hills would be avoided. As compared to the proposed project, Alternative 4 would result in fewer impacts related to geology, soils, faulting and seismicity than the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts related to hazards and hazardous materials (see Section 3.6 of the Draft EIR). Under Alternative 4, large-scale construction would be avoided, although eventually the dam could be removed, along with the tower and other associated infrastructure. As a result, although hazardous materials associated with construction and construction hazards would be avoided; other impacts associated with the ultimate removal of the dam could be equal to construction-related impacts. As compared to the proposed project, potential impacts from hazardous materials would, over the long-term, be less than the proposed project.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater with mitigation incorporated (see Section 3.7 of the Draft EIR). Under Alternative 4, draining the lake would substantially reduce groundwater recharge and would lower the water table downstream. This would significantly affect water supply in the communities downstream from the dam. Storm water draining into the former lakebed may need to be channeled downstream of the dam. This could require constructing storm drain facilities to connect with the Perris Valley Storm Drain system. However, without substantial groundwater recharge, as compared to the proposed project, Alternative 4 would result in greater impacts than the proposed project.

Land Use and Planning

The proposed project would result in less than significant impacts to land use and planning with mitigation incorporated and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Under Alternative 4, decommissioning the dam would remove some recreational uses at Lake Perris SRA. Although this would significantly affect the State Parks facility, other recreational uses could take the place of water sports. Impacts to the Fairgrounds would be avoided, and land use designations and zoning would remain unchanged. Ultimately, the same mitigation measures required for the proposed project would be required for Alternative 4 if the dam is removed. As compared to the proposed project, Alternative 4 could result in impacts similar to the proposed project.

Noise

The proposed project would result in significant and unavoidable impacts to noise levels (see Section 3.9 of the Draft EIR). Under Alternative 4, construction noise would be avoided. However, removal of the dam could result in similar noise impacts. Other recreational uses for the open space created by draining the lake could also result in noisier activities. As compared to the proposed project, over the long-term, Alternative 4 may result in similar impacts to noise.

Public Safety

The proposed project would result in less than significant impacts to public safety with incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Under Alternative 4, impacts to public safety may ultimately be similar to the project because of the possible need to

remove the berm or portions of the berm. As compared to the proposed project, this alternative would eliminate potential hazards related to construction, but these hazards may ultimately be similar to impacts related to demolition, regarding or any other future use of the open space. As a result, as compared to the proposed project, Alternative 4 could result in impacts similar to the proposed project.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services (see Section 3.11 of the Draft EIR). Decommissioning the Perris Dam would remove the reservoir's water supply functions, which include providing emergency standby storage and domestic drinking water supply. MWD has the ability to use the Perris reservoir for its storage capacity. Although, MWD could operate its system without Lake Perris, the additional emergency storage remains available to them. Reducing this storage would pose a greater impact to water service reliability. As proposed to the proposed project, Alternative 4 could result in greater impacts to public services and utilities.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with mitigation incorporated (see Section 3.12 of the Draft EIR). Under Alternative 4, water-based recreation would no longer be available. Land-based recreation opportunities would remain following restoration of the area. This would be a significant impact to recreational opportunities in the region, even though eventually the lake bed could provide additional recreational resources. As compared to the proposed project, Alternative 4 could result in greater impacts to recreation than the proposed project.

Traffic and Circulation

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Under Alternative 4, over the short-term, construction traffic would be eliminated. Ultimately, grading, removal of the berm or portions of the berm, and other recreational activities may result in temporary construction issues, haul routes would be required. As compared to the proposed project, Alternative 4 could result in impacts that would be less than the proposed project.

Impact Summary

The decommissioning of Perris Dam could result in significant impacts to air quality as well as significant impacts to aesthetics, biological resources, land use, drainage, public utilities, and recreation. Impacts could be greater than the proposed project and would not meet the general goals of the project, including goals to maximize beneficial uses of Lake Perris SRA and goals to maintain SWP delivery commitments. Table 6-1 summarizes the ability of this alternative to fulfill the goals of the project; Table 6-2 summarizes the impacts associated with this alternative.

6.2.2 Outlet Tower Alternative

Alternative 5: Tower Retrofit

This alternative would include the seismic retrofit of the existing outlet tower. The retrofit would include updating the tower structure to meet current seismic criteria.

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics with mitigation incorporated (see Section 3.1 of the Draft EIR). Under Alternative 5, retrofitting the tower would involve underwater and underground construction activities. Construction activities would therefore not affect views in the area. As compared to the proposed project, Alternative 5 would have fewer impacts related to aesthetics than the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impacts to air quality with mitigation incorporated (see Section 3.2 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower. This alternative would eliminate the need for blasting into hard rock. As compared to the proposed project, Alternative 5 would result in similar air emissions from construction equipment and delivery trucks, but slightly less impacts related to the air quality effects of blasting.

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (see Section 3.3 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. The underwater construction necessary for this alternative could temporarily affect aquatic resources at the base of the tower. However, these effects would not be considered significant compared to the proposed project, therefore Alternative 5 would result in slightly fewer impacts related to biological resources than the proposed project.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. The haul road would still be constructed over the Bernasconi Hills near existing cultural resources. As a result, retrofitting the outlet tower would result in similar impacts to cultural resources.

Geology, Soils, Faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources with mitigation incorporated (see Section 3.5 of the Draft EIR). Under Alternative 5, the basic

elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. The existing tower would be seismically upgraded. As compared to the proposed project, under Alternative 5, impacts related to geology, soils, faulting and seismicity would be similar to those of the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts related to hazards and hazardous materials with mitigation incorporated (see Section 3.6 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. Alternative 5 would still require construction and use of a haul road. As compared to the proposed project, Alternative 5 would result in generally the same impacts related to hazard and hazardous materials as the proposed project.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater. Under Alternative 5, the existing outlet tower would be improved under water. All other elements of the proposed project would be constructed. Under water construction could affect water quality due to increased turbidity. Although this effect would be temporary, as compared to the proposed project, Alternative 5 would result in increased impacts to water quality.

Land Use and Planning

The proposed project would result in less than significant impacts related to land use and planning with mitigation incorporated for the underground alternative and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. As a result, Alternative 5 would result in no impacts to the motocross facility and parking area or other impacts related to the emergency outlet extension. As compared to the proposed project, Alternative 5 would result in fewer impacts on land use.

Noise

The proposed project would result in significant and unavoidable impacts to ambient noise levels (see Section 39 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. As a result, this alternative would therefore avoid the need for blasting which would reduce noise impacts of the proposed project. As compared to the proposed project, Alternative 5 would result in fewer impacts related to noise.

Public Safety

The proposed project would result in less than significant impacts to public safety with the incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new

outlet tower and its associated facilities. In general, potential impacts to public safety would remain the same, although they would be less intense. As compared to the proposed project, Alternative 5 would result in similar impacts related to public safety, particularly during construction.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services (see Section 3.1 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. In general, potential demand for public services and/or utilities would remain the same, and would require no new facilities or expansion of existing facilities. As compared to the proposed project, Alternative 5 would result in the same impacts to public services and/or utilities.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with mitigation incorporated (see Section 3.12 of the Draft EIR). Under Alternative 5, during construction activities water-based recreational activities would not be allowed near the tower. This would be a temporary impact and the area near the proposed outlet tower would not be restricted. As compared to the proposed project, Alternative 5 would result in similar impacts to recreation.

Traffic

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Under Alternative 5, the basic elements of the proposed project would be constructed, except for construction of a new outlet tower and its associated facilities. No changes to traffic and circulation would occur under Alternative 5, except that trucks would not be routed to the location of the proposed outlet tower. As compared to the proposed project, under Alternative 5, retrofitting the tower would have similar traffic impacts as the proposed project.

Impact Summary

Retrofitting the outlet tower would reduce temporary construction impacts associated with the proposed project including noise. However, the contribution to potentially significant construction air emissions would be similar to the proposed project. The Tower Retrofit Alternative would meet the project objectives associated with tower improvements, including upgrading the tower to meet current seismic standards; minimizing the risks associated with seismic hazards affecting the tower; and thereby generally improving public safety. Table 6-1 summarizes the ability of this alternative to fulfill the goals of the project; Table 6-2 summarizes the impacts associated with this alternative.

6.2.3 Emergency Outlet Extension Alternatives

Alternative 6: Fully Covered Outlet Extension Alternative

Under Alternative 6 or the Fully Covered Outlet Extension Alternative, the proposed emergency outlet extension would be constructed similar to the proposed project's underground emergency outlet extension alternative, except that the entire length of the extension would be fully covered. All other elements of the proposed project would be the same for this alternative (see Chapter 2 of the Draft EIR).

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics with mitigation incorporated (see Section 3.1 of the Draft EIR). Alternative 6 would reduce aesthetic impacts of the proposed project by placing the emergency outlet tower underground and out of site of local views for its entire length, eliminating the need for mitigation measures related to an open channel for the outlet extension. As compared to the proposed project, Alternative 6 would result in fewer impacts to aesthetics than the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impacts to air quality with mitigation incorporated (see Section 3.2 of the Draft EIR). Because Alternative 6 and the proposed project are nearly the same project, except that the emergency outlet extension would be covered, under Alternative 6, construction would result in the same air quality impacts. As compared to the proposed project, Alternative 6 would result in similar air quality impacts.

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (see Section 3.3 of the Draft EIR). Under Alternative 6, because the project would be the same as the proposed project, except that the outlet extension would be covered, impacts to biological resources would be similar to the proposed project. As compared to the proposed project, Alternative 6 would result in impacts to biological resources that would be similar to the proposed project.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Under Alternative 6, the footprint of development and the need for haul roads, and reactivation of the quarry would be the same as the proposed project. As a result, as compared to the proposed project, Alternative 6 would have similar impacts to cultural resources.

Geology, Soils, Faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources with mitigation incorporated (see Section 3.5 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. As compared to the proposed project, Alternative 6 would have similar impacts related to geology, soils, faulting and seismicity as the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts related to hazards and hazardous materials with mitigation incorporated (see Section 3.6 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. As compared to the proposed project, Alternative 6 would have similar impacts related to hazards and hazardous materials.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater with mitigation incorporated (see Section 3.7 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. As compared to the proposed project, Alternative 6 would have similar impacts to hydrology as the proposed project.

Land Use and Planning

The proposed project would result in less than significant impacts related to land use and planning with mitigation incorporated for the underground alternative and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Under Alternative 6, land use impacts related to the significant and unavoidable impact for the open channel alternative would be eliminated and impacts would be less than for the proposed project.

Noise

The proposed project would result in significant and unavoidable impacts to ambient noise levels (see Section 3.9 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. As compared to the proposed project, Alternative 6 would therefore result in similar noise-related impacts.

Public Safety

The proposed project would result in less than significant impacts to public safety with the incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. Under Alternative 6, after construction of Alternative 6, the increased durability of the outlet extension would meet the project objectives for increased public safety. As compared to the proposed project, Alternative 6 would result in fewer public safety impacts than the proposed project.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services (see Section 3.11 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. As compared to the proposed project, Alternative 6 would result in the same impacts to public services and utilities as the proposed project.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with mitigation incorporated (see Section 3.12 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. Under Alternative 6, significant and unavoidable impacts to recreation would be the same as the proposed project.

Traffic and Circulation

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Alternative 6 would replicate the proposed project, except that the outlet extension would be covered. As compared to the proposed project, Alternative 6 would result in similar impacts as to the proposed project.

Impact Summary

Under Alternative 6 or the Fully Covered Outlet Extension Alternative, impacts would be similar to or the same as the proposed project except that the final segment of the extension would also be underground, which would reduce impacts to aesthetics and land use. Alternative 6 would meet all of the objectives and goals of the proposed project. Table 6-1 summarizes the ability of this alternative to fulfill the goals of the project; Table 6-2 summarizes the impacts associated with this alternative.

6.3 No Project Alternative

Alternative 7 or the No Project assumes the proposed Perris Dam Remediation Program would not occur. This alternative assumes that the existing lowered level of Lake Perris would remain at an elevation of 1,563 feet. This alternative also assumes that the lowering of the lake to this level would be allowed by the DSOD as a long-term approach to reduce the potential dam inundation area in the event of a maximum probable earthquake. No additional project elements would be constructed.

It is important to note that DSOD has not suggested or authorized the lowering of the lake to 1563 as a long-term approach to address the seismic concerns with the current status of the dam. The lowering of the lake was only intended to be an interim/emergency approach to address the immediate safety concerns while DWR developed a project to bring Perris Dam up to current seismic standards. Thus, while CEQA requires a no-project alternative to be analyzed, there is no certainty that this alternative could be feasibly implemented for the long-term.

Ability to Meet Project Objectives

The No Project Alternative would not meet most of the project objectives. The seismic upgrade to meet current standards would not occur; a reduced safety risk associated with seismic hazards would not be achieved; enhanced and restored public safety would not be achieved, and recreational uses at Lake Perris SRA would not be maximized. Table 6-1 summarizes the ability of the No Project Alternative to meet the project objectives.

Impact Assessment

The No Project Alternative would result in the permanent lowering of the water surface elevation to the existing condition of 1563 feet, which would reduce the potential dam inundation area in the event of a maximum probable earthquake. No short term construction related impacts would result under this alternative because no construction activities would occur. Permanently maintaining the water surface elevation at 1563 feet would result in long-term and potentially significant impacts to recreational resources and public safety.

6.4 Alternative Borrow Area Location

Alternative 8 or the Alternative Borrow Area Location Alternative builds on a DWR proposal to use of the lake bed for the source of material for the stability berm since the area is readily accessible, the site is owned by DWR, the material is suitable, and its use would minimize impacts of hauling the material from an off-site location. The original dam was constructed from a borrow area in the lake bed that is currently below the water level.

The preferred borrow site (see Chapter 2 of the Draft EIR) for the material needed for the stability berm (the site currently proposed) is located on the northeast end of the lake. The borrow material would be excavated from the lake bed that was exposed as a result of the 25-foot drawdown imposed as an interim safety measure at the end of 2005. The material would be transported to the construction site via a haul road constructed mostly on the lake bed and around the south side of the lake, near the left abutment. Approximately two miles of temporary haul road would be constructed on the exposed lake bed, and less than a mile of haul road would be constructed outside the rim of the lake to traverse up and over the rock slope near the left abutment. The equipment used for the excavation and transport would include excavators at the borrow site and off-highway trucks for the transportation of the material to the construction site. DWR staff provided a rough estimate of \$6/cy for excavating and transporting material to the berm site, producing a total material cost of \$10.5 million for the preferred borrow site (DWR, 2009).

Under Alternative 8, or the Alternative Borrow Area Location would be located within a 20-mile radius of Lake Perris, at an aggregate mine capable of producing the required volume of fill materials. Although several quarries exist within a 20-mile radius of Lake Perris, transporting the estimated two million cubic yards of material over local roadways would result in significant damage to the roads.

Impact Assessment

Aesthetics

The proposed project would result in less than significant impacts related to aesthetics with mitigation incorporated (see Section 3.1 of the Draft EIR). Alternative 8 would result in use of a borrow area 20 miles from the project site, eliminating the need for a haul road along the eastern side of the lake to the borrow areas, which would be visible to visitors within the Lake Perris SRA and from Ramona Expressway. As compared to the proposed project, Alternative 8 would result in fewer impacts to aesthetics than the proposed project.

Air Quality

The proposed project would result in significant and unavoidable impacts to air quality with mitigation incorporated (see Section 3.2 of the Draft EIR). URBEMIS2007 software was used to estimate project related construction emissions for each borrow site alternative (i.e., the preferred borrow site and Alternative 8). The results of the modeling were compared to the applicable SCAQMD thresholds (Refer to **Table 6-3** and **Table 6-4**). As shown, Alternative 8 would result in greater quantities of all analyzed pollutants. Particularly, Alternative 8 would result in significant increases in ROG such that the selection of Alternative 8, as opposed to the preferred borrow site, would result in a significant impact in ROG emissions. In addition, while emissions of NO_x would be significant in either borrow site, NO_x emissions resulting from the Alternative 8 would be considerably increased. Furthermore, it is important to note the differences in CO₂ emissions. Alternative 8 would generate 115,201 lbs/day more CO₂ than the proposed borrow site, which equates to seven times more CO₂ than the proposed borrow site. Thus, with respect to air quality, Alternative 8 or the Alternative Borrow Area Location would result in significant increases in air quality impacts, as compared to the proposed project.

TABLE 6-3
PROPOSED BORROW SITE CONSTRUCTION EMISSION ESTIMATES (LBS/DAY)

	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
2009 TOTALS (lbs/day unmitigated)	13.96	169.50	68.97	0.17	1,120.63	239.31	20,095.05
2010 TOTALS (lbs/day unmitigated)	13.03	155.29	63.51	0.17	1,119.90	238.63	20,095.01
SCAQMD Regional Significance Threshold	75	100	550	--	150	75	--
Potential Impact	No	Yes	No	NA	Yes	Yes	NA

TABLE 6-4
ALTERNATIVE BORROW AREA LOCATION CONSTRUCTION EMISSION ESTIMATES (LBS/DAY)

	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂
2009 TOTALS (lbs/day unmitigated)	83.76	1,098.84	425.61	1.24	1,163.31	276.31	135,296.51
2010 TOTALS	77.99	1,001.83	388.54	1.24	1,158.39	271.78	135,296.47

(lbs/day unmitigated)							
SCAQMD Regional Significance Threshold	75	100	550	--	150	75	--
Potential Impact	Yes	Yes	No	NA	Yes	Yes	NA

Biology

The proposed project would result in significant and unavoidable impacts to biological resources with mitigation incorporated (See Section 3.3 of the Draft EIR). Utilization of Alternative 8 would eliminate the significant and unavoidable impact related to the loss of shallow water habitat, as the Alternative Borrow Area Location would be an existing aggregate mine, and thus would not impact any habitat. As compared to the proposed project, Alternative 8 would result in fewer impacts to biological resources.

Cultural Resources

The proposed project would result in less than significant impacts to cultural resources with mitigation incorporated (see Section 3.4 of the Draft EIR). Under Alternative 8, with a borrow area 20 miles away at an existing quarry, using an existing roadway, impacts to cultural resources would be less than for the proposed project. As compared to the proposed project, Alternative 8 would result in fewer impacts to cultural resources.

Geology, Soils, Faulting and Seismicity

The proposed project would result in less than significant impacts related to geological resources with mitigation incorporated (see Section 3.5 of the Draft EIR). Alternative 8 would result in the use of an existing quarry as the borrow area, eliminating the need to extract material from the lake, reactivate an old quarry and install a lengthy haul road to the proposed borrow area. As compared to the proposed project, Alternative 8 would result in fewer impacts related to geology, soils, faulting and seismicity than the proposed project.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts related to hazards and hazardous materials with mitigation incorporated (see Section 3.6 of the Draft EIR). Alternative 8 would not remove the potential for wildland fires from construction equipment or remove the risk of encountering asbestos-containing materials during demolition. As compared to the proposed project, Alternative 8 would result in similar impacts related to hazards and hazardous materials.

Hydrology, Water Quality and Groundwater

The proposed project would result in less than significant impacts related to hydrology, water quality and groundwater with mitigation incorporated (see Section 3.7 of the Draft EIR). Alternative 8 would, like the proposed project require a SWPPP, but would eliminate the potential for erosion along the proposed haul road. Alternative 8 would also, like the proposed project, require measures to reduce impacts at the staging area(s). As compared to the proposed

project, Alternative 8 would result in slightly less intense impacts related to hydrology, water quality and groundwater.

Land Use and Planning

The proposed project would result in less than significant impacts related to land use and planning with mitigation incorporated for the underground alternative and significant and unavoidable impacts with mitigation incorporated for the open channel alternative (see Section 3.8 of the Draft EIR). Under Alternative 8, potential impacts related to the MSHCP would be reduced because of the elimination of the haul road over Bernasconi Hills. However, all other impacts would be similar. As compared to the proposed project, Alternative 8 would result in slightly less intense impacts related to land use and planning.

Noise

The proposed project would result in significant and unavoidable impacts to ambient noise levels (see Section 3.9 of the Draft EIR). Alternative 8 would result in similar noise impacts, even though under this alternative, the borrow area would be 20 miles away. Alternative 8 would result in an increase in truck traffic, which could lead to more noise and vibration. However, because there would be no need to construct a haul route, construction would probably be completed more quickly. As compared to the proposed project, Alternative 8 could result in slightly less intense impacts related to noise.

Public Safety

The proposed project would result in less than significant impacts to public safety with the incorporation of mitigation measures (see Section 3.10 of the Draft EIR). Alternative 8 would result in most of the safety concerns identified for the proposed project. As compared to the proposed project, Alternative 8 would result in similar impacts related to safety.

Public Services and Utilities

The proposed project would result in less than significant impacts to public services (see Section 3.11 of the Draft EIR). Alternative 8 would result in impacts similar to those identified for the proposed project, demand for fire and police protection services and electricity service. As compared to the proposed project, Alternative 8 would result in similar impacts related to public services and utilities.

Recreation

The proposed project would result in significant and unavoidable impacts to recreation with mitigation incorporated (see Section 3.12 of the Draft EIR). Alternative 8 would result in the same temporary impacts to recreational facilities at the Lake Perris SRA. As compared to the proposed project, Alternative 8 would result in similar impacts related to recreation as the proposed project.

Traffic and Circulation

The proposed project would result in less than significant traffic and circulation impacts with mitigation incorporated (see Section 3.13 of the Draft EIR). Alternative 8 would require the use of state highways to transport the material to the site, and would therefore significantly impact local traffic (i.e., level of service and safety on roadways). As compared to the proposed project, Alternative 8 would result in greater impacts related to traffic and circulation than the proposed project.

Impact Summary

Alternative 8 would result in substantially greater air quality and traffic and circulation impacts than the proposed project. Although most other impacts would be the same or slightly less than the proposed project, Alternative 8 would be more expensive to implement. An estimate of the cost of Alternative 8 assumed a 20 mile haul distance, 12 cy capacity truck, \$100/hr trucking rate, and \$4/cy material cost. Utilizing these parameters, DWR estimated the cost of material acquisition and transport to be approximately \$16.50/cy, for a total cost of approximately \$29 million for Alternative 8 (DWR, 2009).

The environmental impacts associated with on and off-site borrow sources include increased traffic, and increased air pollution. The net cost of environmental mitigation for the proposed project and Alternative 8 have not been estimated; however, based on cost estimates provided by DWR, the material and labor cost alone for the currently proposed borrow site is \$18.5 million less than for Alternative 8. If the net costs of environmental impacts were included, the currently proposed borrow site may be even more economically attractive.

In general, Alternative 8 would meet all of the project objectives except for those related to minimizing environmental impacts. In this case, environmental impacts related to traffic and circulation and air quality would be substantially more severe and affect more people than the proposed project.

6.5 Environmentally Superior Alternative

CEQA requires that an EIR identify an environmentally preferred alternative (*CEQA Guidelines* Section 15126.6[e][2]). A comparison of the impacts among the alternatives is provided in Table 6-2. Alternative 1 (the Increased Dam Capacity Alternative) would provide the potential for greater water storage in the region. However, raising the dam and constructing new saddle dams would significantly increase the construction impacts associated with the proposed project. Impacts to air quality, noise, traffic, and biological resources would each increase significantly; and impacts related to nearly all other environmental topics would also increase. Land uses would be altered due to the larger lake that would accommodate increased water-related recreation activities. This alternative would result in greater impacts than the proposed project.

Alternative 2 (the Reduced Dam Capacity) would require construction of the stability berm and would therefore not reduce impacts associated with construction identified for the proposed project. The permanent lower water level would result in greater impacts to recreation since the

surface area of the lake would be permanently reduced. As a result, Alternative 2 would not reduce significant impacts of the proposed project, but would result in additional permanent significant impacts to recreation.

Alternative 4, (the Dam Decommissioning Alternative) would not require construction of the stability berm and would avoid all the construction impacts associated with the proposed project. However, eliminating the lake would eliminate all riparian habitats currently supported by the lake which would be a significant impact of the alternative. In addition, the alternative would result in significant impacts to recreation since the lake would be eliminated. These significant impacts would outweigh the reduced construction impacts. Therefore, Alternative 4 would result in greater impacts than the proposed project.

Alternative 7 (the No Project Alternative), would avoid all impacts associated with construction of the stability berm including impacts to the riparian habitat. New riparian habitat would grow around the edge of the lower lake sufficient to support least Bells vireo. However, potential impacts to public safety would be greater since the dam would not be remediated. In addition, with a permanently lower water level, impacts to recreation would be significant. As a result, Alternative 7 would result in greater impacts than the proposed project.

Alternative 3 (the Recreation Alternative) would not require construction of the stability berm and would avoid all the construction impacts of the proposed project including the significant impact to air quality. New riparian habitat would emerge at the edge of the new lake that would be sufficient to support least Bells vireo, effectively eliminating the long term impact to least Bells vireo. However, the reduced water level may result in less seepage under the dam that supports the riparian habitat below the dam. It is uncertain if the riparian habitat below the dam would survive with lowered lake levels. Alternative 3 would result in a significant permanent impact to recreational uses of the facility since the water surface area would be permanently reduced. As shown in Table 6-2, Alternative 3 would result in considerably fewer impacts except for reduced recreational opportunities. Based on the comparison illustrated in Table 6-2, the reduction of significant impacts resulting from Alternative 3 would outweigh the additional significant impact to recreational uses. For this reason, Alternative 3 would be the environmentally superior alternative although it would not meet the project objectives of returning the lake to its pre-drawdown functions as a water storage facility.

Alternative 5 or the Outlet Tower Retrofit Alternative would avoid impacts associated with blasting. Otherwise, it could increase water quality impacts during construction. Other construction impacts would be similar. Due to potential water quality impacts during construction for the retrofit alternative, the proposed project is considered the environmentally superior outlet tower alternative.

The Open Channel Outlet Extension Alternative (see Chapter 2 of the Draft EIR) would not avoid any of the significant impacts of the proposed project and would increase impacts to aesthetics, biology, land use, and recreation. Alternative 6 or the Fully Covered Outlet Extension would lessen impacts to aesthetics, land use, and recreation relative to the proposed project, and would therefore be considered the environmentally superior outlet extension alternative.